Division of Public Health Services
Bureau of Emergency Preparedness and Response

Nonpharmaceutical Interventions Community Containment Plan for Pandemic Influenza

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1.0 Introduction

Influenza viruses have plagued the globe for centuries. However, a pandemic only occurs when a novel strain of the virus emerges, leaving the human population vulnerable and without immunity. The pandemic threat we are currently facing is a new influenza strain, Influenza A (H5N1). Presently, human-to-human transmission has been limited, but once a pandemic begins, it cannot be easily controlled.

It is unlikely that a well-matched pandemic strain vaccine will be available during the first six to nine months for mass distribution in the event of pandemic influenza. In addition, it is unknown if currently available antiviral medications will be effective against a novel pandemic virus. In the interim, the State of Arizona is prepared to implement the layered use of nonpharmaceutical interventions (NPIs) as outlined in this community containment plan. The plan addresses the strategic mitigation efforts that the Centers for Disease Control and Prevention (CDC) offers in the *Interim Pre-pandemic Planning Guidance: Community Strategy for Pandemic Influenza Mitigation in the United States* document. Each Arizona local County public health department is responsible for preparing their County specific operations-based community containment plan. These County plans also shall address community containment issues on tribal lands within their County boundaries.

The CDC's guidance document, with input from other Federal agencies, key stakeholders, and partners, including a working group of public health officials and other stakeholders, provides a community mitigation framework based upon early, targeted and layered strategies involving the direct application of multiple partially effective nonpharmaceutical measures initiated early and maintained consistently during an epidemic wave. These interventions include the following:

1. Isolation and treatment (as appropriate) with influenza antiviral medications of all persons with confirmed or probable pandemic influenza. Isolation may occur in the home or healthcare setting, depending on the severity of an individual's illness and/or the current capacity of the healthcare infrastructure.
2. Voluntary home quarantine of members of households with confirmed or probable influenza case(s) and consideration of combining this intervention with the prophylactic use of antiviral medications, providing sufficient quantities of effective medications exist and that a feasible means of distributing them is in place.
3. Dismissal of students from school (including public and private schools as well as colleges and universities) and school-based activities and closure of childcare programs, coupled with protecting children and teenagers through social distancing in the community to achieve reductions of out-of-school social contacts and community mixing.
4. Use of social distancing measures to reduce contact between adults in the community and workplace, including, for example, the cancellation of large public gatherings and alteration of workplace environments and schedules to decrease social density and preserve a healthy workplace to the greatest extent possible without disrupting essential services. Institute workplace leave policies that align incentives and facilitates adherence with the NPIs outlined above.

The effectiveness of individual infection control measures (e.g., cough etiquette, hand hygiene) and the role of surgical masks or respirators in preventing the transmission of influenza are currently unknown. However, cough etiquette and hand hygiene will be universally recommended, and the use of surgical masks and/or respirators may be appropriate in certain settings. Decisions about what tools should be used during a pandemic should be based on the observed severity of the event, its impact on specific subpopulations, the expected benefit of the interventions, the feasibility of success in modern society, the direct and indirect costs, and the consequences on critical infrastructure, healthcare delivery, and society. The most controversial elements (e.g., prolonged dismissal of students from schools and closure of childcare programs) are not likely to be needed in less severe pandemics, but these steps may save lives during severe pandemics. Just as communities plan and prepare for mitigating the effects of severe natural disasters, they should plan and prepare for mitigating the effect of a severe pandemic.

2.0 Goal of the Plan

The goal of the plan is to document Arizona's recommended methods to activate nonpharmaceutical interventions in the community utilizing the Pandemic Severity Index (PSI). The PSI is a tool developed by the CDC to aid communities in assessing which pandemic mitigation interventions to implement based on the severity of the pandemic in the population.

3.0 Concept of Operations

The decision to implement various means of nonpharmaceutical interventions and community containment measures begins at the local level. National guidance from the CDC, the characteristics of the influenza strain, local and statewide disease surveillance of the virus, and unique circumstances including resource availability in the community will help provide thresholds in which to potentially take such actions. Supplement 8, *Community Disease Control and Prevention*, of the Arizona Influenza Pandemic Response Plan, located at http://www.azdhs.gov/pandemicflu/pandemic_flu_plan.htm, references the legal authorities for isolation and quarantine in the state of Arizona, describes the process and has samples of state legal documents necessary by statute to implement isolation and quarantine.

The Arizona Department of Health Services (ADHS) works closely with the County health departments and pandemic influenza coordinating committees to ensure that local community containment plans are in-place and functional. The State has provided this plan as a template for strategic initiatives regarding the implementation of nonpharmaceutical interventions. Each local jurisdiction maintains an operational plan outlining specific procedures for locations under their authority. Plans and related documents are uploaded to the State's Secure Integrated Response Electronic Notification (SIREN) system where they are regularly reviewed and commented on by ADHS staff.

The three major goals of mitigating a community-wide epidemic through nonpharmaceutical interventions are 1) delay the exponential increase in incident cases and shift the epidemic curve to the right in order to "buy time" for production and distribution of a well-matched pandemic strain vaccine, 2) decrease the epidemic peak, and 3) reduce the total number of incident cases and, thus reduce morbidity and mortality in the community. These three major goals of epidemic mitigation may all be accomplished by focusing on the single goal of reducing transmission. NPIs may help

reduce influenza transmission by reducing contact between sick persons and uninfected persons, thereby reducing the number of infected persons. Reducing the number of persons infected will also lessen the need for healthcare services and minimize the impact of a pandemic on the economy and society. The surge of need for medical care associated with a poorly mitigated severe pandemic can be only partially addressed by increasing capacity within hospitals and other care settings. Thus, reshaping the demand for healthcare services by using NPIs is an important component of the overall strategy for mitigating a severe pandemic.

3.1 Social Density

One measure for decreasing transmission of an influenza virus is by increasing the distances among people in work, community, and school settings. Schools and pre-schools represent the most socially dense of these environments. Social density is greatest in pre-school classrooms, with guidelines for occupancy density specifying 35-50 square feet per child. Published criteria for classroom size based upon the number of students and one teacher recommend an elementary school and high school classroom density of 49 and 64 square feet per person respectively. There is more space per person in work and healthcare settings, with high variability from one setting to another; for example, occupancy density in hospitals is about 190 square feet per person. Office buildings have an average occupational density of 390-470 square feet per person. Homes represent the least socially dense environment (median occupancy density of 734 square feet per person in single-family homes). (CDC, 2007)

Public transportation, including subways and transit buses, represents another socially dense environment. There were on average 32.8 million unlinked passenger trips each weekday for all public transportation across the United States in 2004, nearly 20 million of which were by bus. More than half of these 32.8 million passenger trips are work related (54 %) and about 15 % of these trips are school related. Each day, 144,000 public transit vehicles, including 81,000 buses, are in use.

3.2 Targeting Schools, Childcare, and Children

Biological, social, and maturational factors make children especially important in the transmission of influenza. Children without pre-existing immunity to circulated influenza viruses are more susceptible than adults to infection and, compared with adults, are responsible for more secondary transmission within households. Compared with adults, children usually shed more influenza virus, and they shed virus for a longer period. They also are not skilled in handling their secretions, and are in close proximity with many other children for most of the day at school. Schools, in particular, serve as amplification points of seasonal community influenza epidemics, and children are thought to play a significant role in introducing and transmitting influenza virus within their households.

More than half the children attending school (K-12) in Arizona travel on a school bus, which equates to an estimated 1.1 million person trips daily (to school and back home). The number of school children traveling via school bus and via public transportation during a school day is twice the number of people taking all public transportation in the State of Arizona in terms of number of trips and number of individuals during a weekday.

Therefore, given the disproportionate contribution of children to disease transmission and epidemic amplification, targeting their social networks both within and outside of schools would be expected to disproportionately disrupt influenza spread. Given that children and teens are together at school for a significant portion of the day, dismissal of students from school could effectively disrupt a significant proportion of influenza transmission within these age groups. However, re-congregation and social mixing of children at alternate settings could offset gains associated with disruption of their social networks in schools. For this reason, dismissal of students from schools and, to the extent possible, protecting children and teenagers through social distancing in the community, to include reductions of out-of-school social contacts and community mixing, are proposed as a bundled strategy for disrupting their social networks and, thus, the associated disease transmission pathways for this age group.

3.3 Targeting Adults - Social Distancing at Work and in the Community

Eliminating schools as a focus of epidemic amplification and reducing the social contacts for children and teens outside the home will change the locations and dynamics of influenza virus transmission. The social compartments within which the majority of disease transmission will likely take place will be the home and workplace, and adults will play a more important role in sustaining transmission chains. Disrupting adult-to-adult transmission will offer additional opportunities to suppress epidemic spread. The adoption by individuals of infection control measures, such as hand hygiene and cough etiquette, in the community and workplace will be strongly encouraged.

In addition, adults may further decrease their risk of infection by practicing social distancing and minimizing their non-essential social contacts and exposure to socially dense environments. Low-cost and sustainable social distancing strategies can be adopted by individuals within their community (e.g., going to the grocery store once a week rather than every other day, avoiding large public gatherings) and at their workplace (e.g. spacing people farther apart in the workplace, tele-working when feasible, substituting teleconferences for meetings) for the duration of a community outbreak. Employers are encouraged to establish liberal/unscheduled leave policies, under which employees may use available paid or unpaid leave without receiving prior supervisory approval so that workers who are ill or have ill family members are excused from their responsibilities until their family members' symptoms are resolved. In this way, the amount of disease transmission that occurs in the workplace can be minimized, making the workplace a safer environment for other workers.

Healthcare workers may be prime candidates for targeted antiviral prophylaxis once supplies of the drugs are adequate to support this use. Moreover, beyond the healthcare arena, employers who operate or contract for occupational medical services could consider a cache of antiviral drugs in anticipation of a pandemic and provide prophylactic regimens to employees who work in critical infrastructure businesses, occupy business-critical roles, or hold jobs that put them at repeated high risk of exposure to the pandemic virus. This use of antiviral drugs may be considered for inclusion in a comprehensive pandemic influenza response and may be coupled with NPIs. Strategies ensuring workplace safety will increase worker confidence and may discourage unnecessary absenteeism.

4.0 Pandemic Severity Index

Appropriate matching of the intensity of intervention to the severity of a pandemic is important to maximize the available public health benefit that may result from using an early, targeted, and layered strategy while minimizing untoward secondary effects. To assist pre-pandemic planning in Arizona, this plan introduces the concept of a Pandemic Severity Index based primarily on case fatality ratio, a measurement that is useful in estimating the severity of a pandemic on a population level and which may be available early in a pandemic for small clusters of outbreaks. Excess mortality rate may also be available early and may supplement and inform the determination of the Pandemic Severity Index. Pandemic severity is described within five discrete categories listed Category 1 to Category 5. Other epidemiologic features that are relevant in the overall analysis of mitigation plans include total illness rate, age-specific illness and mortality rates, the reproductive number, intergeneration time, and incubation period. However, it is unlikely that estimates will be available for most of these parameters during the early stages of a pandemic; thus, they are not as useful from a planning perspective.

The PSI provides a tool for scenario-based contingency planning to guide pre-pandemic planning efforts. Upon declaration by WHO of having entered the Pandemic Period (Phase 6) and further determination of U.S. Government Stage 3, 4, or 5, the CDC's Director shall designate the category of the emerging pandemic based on the Pandemic Severity Index and consideration of other available information. Pending this announcement, communities facing the imminent arrival of pandemic disease will be able to define which pandemic mitigation interventions are most indicated for implementation based on the level of pandemic severity.

Figure 1: Pandemic Severity Index (Assumes 30% Illness Rate with Unmitigated Pandemic Intervention)

Case Fatality Ratio		Projected Number of Deaths U.S. Population, 2006
>2.0%	Category 5	>1,800,000
1.0 - <2.0%	Category 4	900,000 - <1,800,000
0.5 - <1.0%	Category 3	450,000 - <900,000
0.1 - <0.5%	Category 2	90,000 - <450,000
<0.1%	Category 1	<90,000

Figure 1 provides a graphic depiction of the U.S. Pandemic Severity Index by case fatality ratio, with ranges of projected U.S. deaths at a constant 30 percent illness rate and without mitigation by any intervention. Data on case fatality ratio and excess mortality in the early course of next pandemic will be collected during outbreak investigations of initial clusters of human cases, and public health officials may make use of existing influenza surveillance systems once widespread transmission starts. However, it is possible that at the onset of an emerging pandemic, very limited information about cases and deaths will be known. Efforts now to develop decision algorithms based on partial data and efforts to improve global surveillance systems for influenza are needed.

Multiple parameters may ultimately provide a more complete characterization of a pandemic. The age-specific and total illness and mortality rates, reproductive number, intergeneration time, and incubation period as well as population structure and healthcare infrastructure are important factors in determining pandemic impact. Although many factors may influence the outcome of an event, it is reasonable to maintain a single criterion for classification of severity for the purposes of guiding contingency planning. If additional epidemiologic characteristics become well established during

the course of the next pandemic through collection and analysis of surveillance data, then the State may develop a subset of scenarios, depending upon, for example, age specific mortality rates.

Table 1 provides a categorization of pandemic severity by case fatality ratio, the key measurement in determining the Pandemic Severity Index, and excess mortality rate. In addition, Table 1 displays ranges of illness rates with potential numbers of U.S. deaths per category, with recent U.S. pandemic experience and U.S. seasonal influenza to provide historical context.

Table 1: Pandemic Severity Index by Epidemiological Characteristics

Characteristics	Pandemic Severity Index (PSI)				
	Category 1	Category 2	Category 3	Category 4	Category 5
Case Fatality Ratio (percentage)	<0.1	0.1-<0.5	0.5-<1.0	1.0-<2.0	≥2.0
Excess Death Rate (per 100,000)	<30	30-<150	150-<300	300-<600	≥600
Illness Rate (% of population)	20-40	20-40	20-40	20-40	20-40
Potential Number of Deaths based on 2006 U.S. population)	<90,000	90,000-<450,000	450,000-<900,000	9000,000-<1.8 million	≥1.8 million
20th Century U.S. Experience	Seasonal Influenza (Illness rate 5-20%)	1957, 1968	None	None	1918 Pandemic

5.0 Use of Nonpharmaceutical Interventions by Pandemic Severity Category

Planning for use of these nonpharmaceutical interventions is based on the Pandemic Severity Index, which may allow more appropriate matching of the interventions to the magnitude of the pandemic. These recommendations are summarized in Table 2. All interventions should be combined with infection control practices, such as good hand hygiene and cough etiquette. In addition, the use of personal protective equipment, such as surgical masks or respirators, may be appropriate in some cases and guidance on community face mask and respirator use will be forthcoming from CDC or ADHS.

For Category 4 or Category 5 pandemics, a planning recommendation is made for use of all listed NPIs. In addition, planning for dismissal of students from schools and school-based activities and closure of childcare programs, in combination with means to reduce out-of-school social contacts and community mixing of these children, should encompass up to 12 weeks of intervention in the most severe scenarios. This approach to pre-pandemic planning will provide a baseline of readiness for community response even if the actual response is shorter. Recommendations for use of these measures for pandemics of lesser severity may include a subset of these same interventions and, possibly, suggestions that they be used for shorter durations, as in the case of the social distancing measures for children.

For Category 2 or Category 3 pandemics, planning for voluntary isolation of ill persons is recommended whereas other measures (voluntary quarantine of household contacts, social distancing measures for children and adults) are to be implemented only if local decision-makers have determined that characteristics of the pandemic in their community warrant these additional mitigation measures. However, within these categories, pre-pandemic planning for social distancing measures for children should be undertaken with a focus on a duration of 4 weeks or less, distinct from the longer timeframe recommended for pandemics with greater Pandemic Severity Index. For Category 1 pandemics, only voluntary isolation of ill persons is recommended on a community-wide basis, however the Arizona Department of Health Services may still choose to tailor a response to Category 1-3 pandemics differently by applying NPIs on the basis of local epidemiological parameters, risk assessment, availability of countermeasures, and consideration of local healthcare surge capacity in the State. Thus, from a pre-pandemic planning perspective for both assessing local and public health capacity and healthcare surge, delivering countermeasures, and implementing these measures in full and in combination will be assessed as a pandemic unfolds.

Table 2: Summary of the Arizona Community Mitigation Strategy by Pandemic Severity

Interventions by Setting	Pandemic Severity Index		
	1	2 & 3	4 & 5
Home: Voluntary isolation of ill at home (adults and children); combined with the use of antiviral treatments as available and indicated	Recommend	Recommend	Recommend
Home: Voluntary quarantine of household members in homes with ill persons (adults & children); consider combining with antiviral prophylaxis if effective, feasible, and quantities sufficient	Generally not recommended	Consider	Recommend
School: Child social distancing			
• dismissal of students from schools and school based activities and closure of child care programs	Generally not recommended	Consider: ≤ 4 weeks	Recommend: ≤ 12 weeks
• reduce of-of-school social contacts and community mixing	Generally not recommended	Consider: ≤ 4 weeks	Recommend: ≤ 12 weeks
Workplace/Community: Adult Social Distancing			
• decrease number of social contacts (e.g., encourage teleconferences, alternatives to face-to-face meetings)	Generally not recommended	Consider	Recommend
• increase distance between persons (e.g., reduce density in public transit, workplace)	Generally not recommended	Consider	Recommend
• modify, postpone, or cancel selected public gatherings to promote social distance (e.g., postpone indoor stadium events, theater performances)	Generally not recommended	Consider	Recommend
• modify work place schedules and practices (e.g., tele-work, stagger shifts)	Generally not recommended	Consider	Recommend

5.1 Voluntary Isolation and Treatment of Ill Persons

The goal of this intervention is to reduce transmission by reducing contact between persons who are ill and those who are not. Ill individuals not requiring hospitalization are requested to remain at home voluntarily for the infectious period, approximately 7-10 days after symptom onset. This would usually be in their homes, but could be in a home of a friend or relative. Voluntary isolation of ill children and adults at home is predicated on the assumption that many ill individuals who are not critically ill can, and will need to be cared for in the home. In addition, this intervention may be combined with the use of influenza antiviral medications for treatment (as appropriate), as long as such medications are effective and sufficient in quantity and that feasible plans and protocols for distribution are in place.

Requirements for success include prompt recognition of illness, appropriate use of hygiene and infection control practices in the home setting (specific guidance is forthcoming and will be available on www.pandemicflu.gov); measures to promote voluntary compliance (e.g., timely and effective risk communications); commitment of employers to support the recommendation that ill employees stay at home; and support for the financial, social, physical, and mental health needs of patients and caregivers. In addition, ill individuals and their household members need clear, concise information about how to care for an ill individual in the home and when and where to seek medical care. Special consideration should be made for persons who live alone, as many of these individuals may be unable to care for themselves if ill.
Flu symptoms can be mild or severe. It is important to note that mild symptoms can become severe without much notice. Not all of the listed symptoms need to be experienced to have the flu. The common symptoms of the flu include:

- Fever (usually high)
- Headache
- Muscle aches
- Runny nose may also occur but is more common in children than adults
- Extreme tiredness
- Dry cough
- Chills
- Stomach symptoms, such as nausea, vomiting, and diarrhea, may also occur but are more common in children than adults

Complications of the flu can include bacterial pneumonia, ear infections, sinus infections, dehydration, and worsening of chronic medical conditions, such as congestive heart failure, asthma, or diabetes.

During a pandemic, it is recommended that the non-acutely ill not go to the hospital except in the case of a medical emergency. Flu related symptoms requiring emergency care include trouble breathing, being confused or incoherent, or a seizure. Hospitals will be overwhelmed with patients during a pandemic and many sick people may have to be cared for at home or at a non-hospital location. Ill individuals may have to rely on old fashioned remedies such as rest and re-hydration as antiviral drugs will be scarce. Consider the following:

- Stay home from work or school, and rest
- Drink plenty of non-caffeinated fluids
- Use acetaminophen or ibuprofen to help with fever and body aches
- Wash hands often to protect other people
- Avoid getting close to other people, especially when coughing or sneezing
- Cover mouth and nose when coughing or sneezing

This information will be widely distributed, in collaboration with Arizona acute care hospitals, to the public through print and electronic media and the modes described in Section 5.6 – Public Health Risk Communication of this plan. The process for making a presumptive/definitive diagnosis will be handled at the local level and will include:

- Case definition for presumptive/definitive diagnosis
- A plan to train local County health department personnel on diagnosis in early and later stages of pandemic.
- Assured stock of test kits for rapid diagnosis.
- Developed agreements with laboratories for rapid diagnostic testing 24/7.
- Developed and planned distribution of educational materials for patients (fact sheets about pandemic influenza, including signs and symptoms, self care, and infection control).
- Plan for notifying businesses that ill persons should not go to work until no longer infectious.

Treatment of people with presumptive or definite pandemic influenza will be managed at the local level. To enhance this capability, local County health departments will:

- Train secondary screeners for remote triage (severity of illness, ability to care for at home).
- Identify community facilities and staffing for ill person who cannot be hospitalized or cared at home.
- Engage community-based home health care resources for care of vulnerable homebound ill persons.
- Distribute educational materials to guide:
    1. Care of sick persons at home
    2. Infection control
    3. When to call hotline (see Section 5.6)
- Identify methods to stockpile and distribute medications (symptomatic treatment antivirals) to homebound.
- Routinely monitor ill persons outside hospitals.
- Share information regarding ill persons between employers, hospitals, and clinical facilities.
- Coordinate subsistence (food, shelter, utilities) for patients with inadequate resources.
- Coordinate community EMS and 911 services and establishing protocols and algorithms.

Once the ADHS Antiviral Distribution Plan is activated, antiviral drugs from public stockpiles will be distributed to pre-determined priority groups for diagnosed cases of influenza only. Mass vaccination strategies during a pandemic also rely on priority groups and can only be instituted as vaccine supplies are made available.

Home isolation of patients may occur as hospital resources become scarce or it is in the best interest of the patient to be cared for at home. Arizona Revised Statutes (ARS) § 36-788(C) describes the role of the state and local health department for home isolation and/or quarantine. “The department, a County health department or a public health services district shall ensure, to the extent possible, that the premises in which a person is isolated or quarantined is maintained in a safe and hygienic manner and is designed to minimize the likelihood of further transmission of disease or other harm to a person subject to isolation or quarantine. Adequate food, clothing,

medication and other necessities, competent medical care and means of communicating with those inside and outside these settings shall be made available."

During a declared state of emergency, ADHS will coordinate with the Arizona Division of Emergency Management (ADEM) and statewide volunteer agencies and organizations to provide services and resources to those isolated or quarantined at home or another location. Local health departments are encouraged to coordinate with local emergency management and community non-profit and volunteer agencies.

The Citizen Corps Council has partnered with the "Ready Campaign" and many of the County Health Volunteer Coordinators have partnered with CERT Programs in their counties to incorporate those citizen volunteers in their pandemic and mass care plans. Arizona now has eight Medical Reserve Corps Units; six of the eight were developed in partnership with their County health department to provide trained medical volunteers to assist in medical emergencies and disasters such as a pandemic. Additionally, Maricopa and Pima County schools have volunteered to serve as points of distribution (POD) for mass prophylaxis and have partnered with local CERT Programs to provide necessary volunteers to run their PODs . The State Citizen Corps Council has developed a Deployment Typing Matrix for Citizen Corps Programs; the typing matrix provides a qualification matrix for emergency managers to utilize when requesting deployable trained volunteers. Finally, all statewide Citizen Corps Councils are NIMS compliant and the courses are being offered as continuing education to all Citizen Corps Programs.

5.1.1 Isolation of Incoming Ill Travelers

As with community containment, travel-related containment if often best addressed at the local level, although many situations may involve ADHS and the federal government, due to federal ports of entry and quarantine authority for international travel laws. Affected County and tribal health departments are encouraged to work with ADHS while preparing for and enacting containment measures to address travel-related risk (Refer to Arizona Influenza Pandemic Response Plan, Supplement 9: Travel-Related Risk of Disease Transmission).

Systems to identify airport/travel associated import of influenza-like illness have been explored at the Phoenix Sky Harbor International Airport. MedAire, Sky Harbor Airport Administration, and Phoenix Fire Department (PFD) Administration, in conjunction with ADHS and the Maricopa County Department of Public Health (MCDPH) have the aim to integrate response plans for the event of an inbound aircraft with a passenger that is suspected of having an infectious disease. A high priority has been placed on separating (isolating) the sick from the non sick, deplaning the potentially exposed, and not keeping an aircraft on the tarmac. The initial response to such an event will involve the Airport Authority, the Phoenix Fire Department, the Phoenix Police Department and the involved airline. Gates C and D of Terminal 2 at Sky Harbor have been identified as locations where passengers can be disembarked and remain isolated from the rest of the airport. An Airport Response Plan, Isolation Drill & Drill Debrief, PFD plan for tracking asymptomatic individuals, and a draft MCDPH Response Plan have been established.

CDC announced (at Pandemic flu summit meeting) their intent to address federal-level airport issues such as MedAire in-flight consultations. Further efforts in regards to MedAire will be based on federal initiation in the future.

Arizona shares an international border with Mexico. The Mexican Epidemiological and Health Intelligence Unit's (UIES) function at the international border points of entry (POEs) is to meet with authorities at each of the POEs recognized by the state and revise emergency procedures jointly with Mexican customs authorities. A central operation center will be established at the state-recognized POEs, and a list of personnel responsible for covering all scheduled land border crossing shifts will be presented. A request will be made for a room for isolation and an area designated for land transportation. UIES will visually inspect vehicle passengers and transportation vehicle passengers, and assess travelers by asking health-related questions and respond accordingly.

5.2 Voluntary Quarantine of Household Members of Ill Persons

The goal of this intervention is to reduce community transmission from members of households in which there is a person ill with pandemic influenza. Members of households in which there is an ill person may be at increased risk of becoming infected with a pandemic influenza virus. Members of households with ill persons may be recommended to stay home for an incubation period 7 days (voluntary quarantine) following the time of symptom onset in the household member. If other members become ill during this period, the recommendation is to extend the time of voluntary home quarantine for another incubation period, 7 days from the time that the last family member becomes ill.

Since those who are requested to be quarantined at home have not yet contracted influenza, it may be difficult to enforce this measure as they are likely to still feel well enough to carry on regular activities. However, persons quarantined at home may quickly transition from the role of a caretaker to an influenza case. The Arizona Revised Statute (ARS) §36-788 B(2) mentions that during a Governor declared state of emergency or state or war emergency, the Department or local health authority may "Require isolation or quarantine of any person by the least restrictive means necessary to protect the public health." In addition, "The department or local health authority shall use all reasonable means to prevent the transmission of disease among the isolated or quarantined persons."

Requirements for success of this intervention include the prompt and accurate identification of an ill person in the household, voluntary compliance with quarantine by household members, commitment of employers to support the recommendation that employees living in a household with an ill individual stay home, the ability to provide needed support to households that are under voluntary quarantine, and guidance for infection control in the home. Additionally, adherence to ethical principals in the use of quarantine during pandemics must be considered.

Local County health departments will be responsible for developing and executing methods to identify household contacts and these methods shall be detailed in the individual local County health department community containment plans. Methods shall include at a minimum:

- Interview forms with demographic characteristics of household members (both ill and contacts).
- A plan for routine monitoring of households including contacts.
- Educational materials for contacts (symptoms, reporting of new illnesses to local County health department or hotline, how to care for a sick person at home, infection control).

- A plan to coordinate subsistence (food, shelter, utilities) for households with inadequate resources while in quarantine.

5.2.1 Quarantine of Incoming Ill Travelers - Federal, State and International Authority

In general, HHS defers to state, tribal and local health authorities in the primary use of their separate quarantine powers. Based on long experience and collaborative working relationships with our state, local, and tribal partners, CDC anticipates that the need to use this federal authority to quarantine a person will occur only in rare situations, such as in events at ports of entry or other time-sensitive settings. This authority will be used only if a person poses a threat to public health and refused to cooperate voluntarily.

In the event of an infectious disease outbreak along the international border region, Isolation and Quarantine (I & Q) measures may need to be implemented in an attempt to control and limit the number of exposures and infected persons. Isolation applies to persons who are known to have an illness, and quarantine applies to those who have been exposed to an illness but who may or may not become ill. Federal, State, Local, and Tribal agencies need to work collaboratively with Mexican counterparts due to the daily large number of border crossers. Currently in the U.S., State and Local governments have the primary authority to control the spread of dangerous diseases within their jurisdictions, with the Federal government's role limited to interstate and foreign quarantine.

International Consideration

Consular Affairs-The U.S. Department of State Foreign Affairs Manual, Volume 7 – Consular Affairs, 7 FAM 359 Consular Affairs Notification and Access in Cases of Quarantinable Communicable Diseases. (CT:CON-120; 12-06-2005) refers to the following:

> Consular Notification: The Vienna Convention on Consular Relations (VCCR) obligates parties to the Convention to advise foreign nationals held in either quarantine or isolation for health reasons of their right to have a consular office notified of their detention if they so request. Specifically, subparagraph (b), paragraph one, Article 36 requires host countries to apprise a foreign national of his/her right to have a consular officer notified "without delay" if the person is "arrested or committed to prison or to custody pending trial or is detained in any other manner." Individuals who are quarantined or isolated and thus deprived of their freedom of movement are, in the Department's view, "detained" within the meaning of Article 36 of the VCCR, (see 7 FAM 310 and 7 FAM 363.2).

United States Federal Level-Secretary of the Department of Health and Human Services, Centers for Disease Control and Prevention-Title 42 United States Code Section 264 (Section 361 of the Public Health Service [PHS] Act) gives the Secretary of the Department of Health and Human Services (HHS) responsibility for preventing the introduction, transmission, and spread of communicable diseases from foreign countries into the United States and within the United States and its territories/possessions. This statute is implemented through regulations found at 42 CFR Parts 70 and 71. Under its delegated authority, CDC, through the Division of Global Migration and Quarantine, is empowered to detain, medically examine, or conditionally release persons suspected of carrying a communicable disease.

Arizona – State Level

Pursuant to ARS §36-788. Isolation and quarantine during a state of emergency or state of war emergency

A. During a state of emergency or state of war emergency as declared pursuant to § 36-787, the department or local health authority must initiate an investigation if that agency has reasonable cause to believe that a highly contagious and fatal disease exists within its jurisdiction. Subject to the provisions of this article, persons who have contracted the disease or who have been exposed to the disease may be subject to isolation and quarantine if the director determines that quarantine is the least restrictive means by which the public can be protected from transmission of the disease, due to the nature of the disease and available preventive measures, or refusal by an individual to accept less restrictive measures to prevent disease transmission. Diseases for which isolation and quarantine may be ordered do not include acquired immune deficiency syndrome or other infection caused by the human immunodeficiency virus.
B. The department or local health authority may, during the state of emergency or state of war emergency declared by the governor, do the following:
    1. Establish and maintain places of isolation and quarantine, which may include the residence of the person quarantined.
    2. Require isolation or quarantine of any person by the least restrictive means necessary to protect the public health. The department or local health authority shall use all reasonable means to prevent the transmission of disease among the isolated or quarantined persons.
C. The department, a County health department or a public health services district shall ensure, to the extent possible, that the premises in which a person is isolated or quarantined is maintained in a safe and hygienic manner and is designed to minimize the likelihood of further transmission of disease or other harm to a person subject to isolation or quarantine. Adequate food, clothing, medication and other necessities, competent medical care and means of communicating with those in and outside these settings shall be made available.
D. A person subject to isolation or quarantine shall comply with the department's or local health authority's rules and orders, shall not go beyond the isolation or quarantine premises and shall not come in contact with any person not subject to isolation or quarantine other than a physician or other health care provider, department or local health authority or person authorized to enter an isolation or quarantine premises by the department or local health authority.
E. Other than a person authorized by the department or local health authority, a person shall not enter an isolation or quarantine premises. If, by reason of an unauthorized entry into an isolation or quarantine premises, the person poses a danger to public health, the department, or local health authority may place the person in isolation or quarantine pursuant to this section or section 36-789.
F. The department or local health authority must terminate isolation or quarantine of a person if it determines that the isolation or quarantine is no longer necessary to protect the public health.

Arizona – Local Level

When a County health department or public health services district is apprised that infectious or contagious disease exists within its jurisdiction, it shall immediately perform an investigation. If the investigation discloses that the disease does exist, the County health department of public health service district may adopt quarantine and sanitary measure consistent with department (ADHS) rules and ARS sections 36-788 and 36-789 to prevent the spread of the disease. The County health department or public health service district shall immediately notify the department of health services of the existence and nature of the disease and measures taken concerning it.

Sonora – State and Local Level

Measures to reduce risk of disease transmission of infected persons will be enforced. These measures correspond to interventions of isolation and quarantine: Closures of schools, theaters, cinemas, bars, and stadiums; do not attend social events; avoid direct contact with persons that are ill; public health response teams will wear personal protective equipment (PPE), such as masks, special suits, gloves and eye protection.

Measure to reduce the risk of disease transmission of contacts includes: Medical attention for contacts; self-care and self-monitoring (take temperature); visit a physician if a contact presents with symptoms; voluntary quarantine (home self-confinement) of healthy contacts; recommendations to contacts to reduce social interaction and avoid travel to non-infected areas.

Measures to increase social distancing include: Voluntary confinement of symptomatic persons; school closures at all education levels; and measures to reduce contacts with adults.

5.3 Child Social Distancing: Dismissal of Schools and Closure of Childcare Programs

The goal of these interventions is to protect children and to decrease transmission among children in dense classroom and non-school settings and, thus, to decrease introduction into households and the community at large. Social distancing interventions for children include dismissal of students from classrooms and closure of childcare programs, coupled with protecting children and teenagers through social distancing in the community to achieve reductions of out-of-school social contacts and community mixing. However, it is acknowledged that maintaining the strict confinement of children during a pandemic would raise significant problems for many families and may cause psychosocial stress to children and adolescents. These considerations must be weighed against the severity of a given pandemic to the community at large and to children in particular.

If a recommendation for social distancing of children is advised and families must group children together for pragmatic reasons, it is recommended that group sizes be held to a minimum and that mixing between such groups be minimized as much as possible.

5.3.1 Decision Making Process

The decision to close schools to limit transmission of a pandemic influenza will be coordinated with the local and County health departments and the school district governing board, with input and guidance from the State. Arizona Revised Statute (ARS) § 15-341 (A) (34) requires each

individual school site to have an emergency response plan that meets minimum state requirements for closure. The Arizona Department of Education (ADE) and the Arizona Division of Emergency Management (ADEM) are responsible for developing the minimum standards for school emergency response plans in Arizona. Schools must collaborate with their local law enforcement, fire, emergency management and public health agencies to develop their plans.

An Emergency Response Plan (ERP) Advisory Council is being formed to develop further guidance for schools and to provide additional input in Arizona State planning. The council consists of the following representatives:

- District and charter administrators with responsibility for ERP development representing urban and rural locations
- District and charter business managers representing urban and rural locations
- Arizona Department of Health Services(ADHS) representative
- ADE representative
- Representatives from other agencies as the agenda warrants

The Arizona School ERP Advisory Council will also develop guidance for schools on the planning of continuation of social services. Support for schools in developing plans for continuation of education and social services will be provided by several offices within the ADE, including Health and Nutrition (school meals), Educational Technology (distance learning), Exceptional Student Services (behavioral health services). The decision to provide for the continuation of social services provided at the discretion of the school is also within the authority of the governing boards. Factors that will contribute to these decisions include: school capacity (such as technology), student absenteeism rate, teacher absenteeism rate, administrative absenteeism, continuation of funding through the ADE, continuation of funding through other sources (such as the federal government) and the priority given to the continuation of these services.

The Arizona Department of Education has also produced an emergency response plan template that includes an appendix on pandemic planning. Activities within this appendix are listed according to the World Health Organization's (WHO) pandemic phases. Under Phase 6, in addition to curtailing non-essential services and providing backup means of continuing the education process is the statement, "In coordination with the County health department, determine if schools should be closed." Local County health departments will coordinate and collaborate with the education sector on continuity of education and related activities during a pandemic.

Requirements for success of these interventions include consistent implementation among all schools in a region being affected, community and parental commitment to keeping children from congregating out of school, alternative options for the education and social interaction of the children, clear legal authorities for decisions to dismiss students from classes and identification of the decision-makers, and support for parents and adolescents who need to stay home from work. Interim strategies include:

1. Category 1: No dismissal of students from schools or closure of childcare facilities.
2. Category 2 or 3: Short-term (up to 4 weeks) cancellation of classes and closure of childcare facilities.
3. Category 4 or 5: Prolonged (up to 12 weeks) dismissal of students and closure of childcare facilities.

Guidance for deciding when to close schools is most beneficial in a Category 2 or 3 situation, as it is expected that schools will not be open for business during a Category 4 or 5 pandemic due to lack of student and staff demand. ADHS is currently working directly with the ADE School Safety and Prevention Director in drafting such guidance. Draft policies, procedures, letters to parents, and media communications have been developed and should be finalized prior to the end of the 2007-2008 school year.

The responsibility to alert parents and other stakeholders of school closure lies with the individual district and charter holder governing boards. The Arizona School Emergency Response Plan Advisory Council will develop guidance for schools on policy and action steps regarding stakeholder notification prior to and during an influenza pandemic. Childcare facilities should look to the local district school governing board for guidance. The plan will include utilization of the Arizona 2-1-1 website for emergency preparedness.

Public health information and resource sharing takes place between the Department and the Arizona Department of Education and this exchange would be escalated during an influenza pandemic with the goal of maintaining a unified message. Technical assistance would occur from both of these state departments to the local health departments and schools regarding school closure.

In the situation of a pandemic influenza, school personnel are not exempt from following mandatory reporting laws, in particular the reporting of suspected child abuse or neglect to law enforcement or the Arizona Department of Economic Security/Child Protective Services. Any suspected abuse or neglect must still be followed up on as per ARS 13-3620. The Arizona Department of Economic Security and ADE will continue to work in partnership with each other and law enforcement to ensure the safety of students in the event of school closure.

ADHS has also developed The Flu Education Toolkit which has a selection of posters, flyers, brochures and tips to educate people about preventing the spread of the flu available through the website http://www.azdhs.gov/flu/flu_toolkit.htm. The Toolkit prevention materials are designed specifically for schools, childcare facilities, and parents. Spanish versions are available for most of the materials.

5.3.2 Colleges and Universities

Colleges and universities present unique challenges since student life can include classroom and dormitory density, commuting and adult social interaction. Many parents may want their children who are attending college or university home during a pandemic. Colleges and universities must be prepared for managing and assisting large numbers of students departing school within a short time span. Policies should be explored to identify what students may leave campus and to assist in the travel of such students. Planning must also be considered for those students unable to return home during a pandemic.

Arizona State University (ASU), Arizona's largest public university, has developed a Pandemic Influenza Working Group. The goal of this group is to establish a plan for ASU in the event of a pandemic. The plan will address:

- Criteria for the university to cancel public events and suspend classes to send students home to a less-risky environment before the cancellation of public transportation.
- Influenza medical care for students and the university community.
- Housing and food service for students that are ill or well on all ASU campuses who are unable to go home.
- Essential university functions and personnel that would be called upon to provide health care, security, housing and food service, maintain integrity of research and university infrastructure.

The Pandemic Influenza Working Group also monitors local, national and international health organizations' updates on the H5N1 virus to keep university leadership and the community informed of any changes in flu outbreaks across the globe and developments in treatment. Additionally, the group has purchased supplies, including masks, medication and vaccinations to treat the university community.

5.4 Workplace/Community: Adult Social Distancing

Social distancing measures for adults include provisions for both workplaces and the community and may play an important role in slowing or limiting community transmission. The goals of workplace measures are to reduce transmission within the workplace and thus into the community at large, to ensure a safe working environment and promote confidence in the workplace, and to maintain business continuity, especially for critical infrastructure. Workplace measures such as encouragement of tele-work and other alternatives to in-person meetings may be important in reducing social contacts and the accompanying increased risk of transmission. Similarly, modifications to work schedules, such as staggered shifts, may also reduce transmission risk.

Within the community, the goals of these interventions are to reduce community transmission and thus slow or limit transmission. Cancellation or postponement of large gatherings, such as concerts or theater showings, may reduce transmission risk. Modifications to mass transit policies to decrease passenger density may also reduce transmission risk, but such changes may require running additional buses, which may be challenging due to transit employee absenteeism, equipment availability, and the transit authority’s financial ability to operate nearly empty cars or buses.

Development of Business Continuity of Operations Plans (COOP) is taking place among various businesses with the intent of identifying essential services and establishing plans to continue operations in the event of an emergency such as an influenza pandemic. Recommendations and public health information coordinated among the state and local health departments may affect or introduce the possibility of closure of businesses or potential limiting of services. Current business planning objectives should include redefining human resource policies such as telecommuting, absenteeism and family sick leave in the event of an influenza pandemic. Extra attention to hygiene etiquette and education about influenza transmission should be ongoing, as should guidance on identifying illness in employees and encouraging those employees to self-isolate or self-quarantine if they suspect exposure. The ADHS Flu Education Toolkit for the Workplace (http://azdhs.gov/flu/flu_toolkit_workplace.htm) provides tips to employers for keeping the workplace “flu-free” and hopefully the result would be a reduced number of employee sick days.

These materials are designed especially for the workplace and include general public education materials for posting.

Technical support from the state and local health departments and insurance carriers can help establish on-site influenza vaccine clinics at large employers to offset transmission of regular influenza viruses. Absenteeism of ill employees or those caring for ill family members may result in similar consequences as a temporary closure of a business. Despite the potential for a reduced workforce, most businesses cannot afford to place their operations on-hold and the degree of effects upon society are unknown.

If a pandemic is declared, the Arizona Department of Commerce (Commerce) would coordinate with the Local Workforce Investment Board (LWIB) directors/managers to establish local business priorities, identify local business workforce needs, and provide outreach and support to local business in their areas using the local One Stop centers. Commerce would contact and coordinate with the career placement offices of the three state universities to identify a pool of skilled or semi-skilled workers within their respective student bodies who could fill the requirements of targeted local businesses as members of a temporary workforce. Utilizing an e-mail database, businesses could be notified directly of the services/facilitation that Commerce could provide to them; this same methodology could be used to query businesses as to what assistance they need to allow them to provide for continuity in their business operations. By establishing contact with their community and economic development partners statewide, Commerce could also facilitate the development of a statewide business needs assessment. In addition, Commerce could assist in arranging regional consortium grants to assist small businesses in meeting the training needs for new employees.

Arizona will comply with federal guidelines regarding FMLA laws relative to workers impacted by a pandemic. However, private-sector workers who may lose jobs or be unable to work because they themselves are ill or must stay home to care for ill family members can be assisted through multiple programs that the Arizona Department of Economic Security (DES) administers. The DES Workforce Investment Act (WIA) Section provides the administrative functions for the delivery of WIA workforce services provided by the 14 Local Workforce Investment Areas (LWIAs), including the 19 Tribal Nations in the State. These agencies and entities provide a menu of services to eligible participants. The DES/WIA role, if a pandemic flu should occur, would be to coordinate the delivery of services with the LWIAs.

Examples of the services that could be made available by DES/WIA include support services (such as transportation, housing, utility assistance, child care, or dependent care costs), occupational training, basic skills training for completion of high school diplomas or GEDs, development of an individualized service plan, on-the-job or customized training, work experience assignments, assistance securing another job, and assessment to determine skill levels. These services are available to youth aged 14–21, to adults aged 18 and above, and would be available to private-sector workers impacted by a pandemic.

Local County health departments will have established interdisciplinary relationships with and between community leaders including not-for-profits, employers, and faith-based groups to assist workplace and community social distancing components and activities. This will include

development and distribution of informational materials for the workplace and community and guidance to communicate to local employers on distancing persons at the worksite.

5.4.1 Reduced Public Transport

Although not all Arizona counties have public transportation systems, those that do may consider the possibility of recommending the reduction of public transport services. However, such a measure would have severe consequences for those who depend upon the systems for commutes and other appointments. For example, Valley Metro, the public bus provider in Phoenix, Arizona had over 54,000,000 boardings in FY 2004-2005 and Sun Tran, the public bus provider in Tucson, provides transportation to approximately 57,000 riders on the average weekday.

Guidance for the limitation of airline transportation would stem from disease surveillance information. As part of the pandemic influenza phase II projects, the Arizona Department of Health Services (ADHS) in conjunction with the Maricopa County Department of Public Health (MCDPH) is working toward information sharing agreements with Med-Air, an in-flight medical consultation service based in Tempe, Arizona. In addition, there is the potential for ADHS to receive information about absenteeism among Phoenix Sky Harbor Airport employees that could be used during enhanced disease surveillance.

5.4.2 Cancellation of Mass Gatherings

Local County health departments will be responsible for developing and executing methods to cancel large public gathering and will incorporate these processes in their operational plans. They shall develop interdisciplinary relationships with partners that will be involved in canceling large building gatherings including, but not limited to, venue management, local government leaders and law enforcements.

Recommendations from the local County health departments might include the cancellation of recreational or optional mass gatherings to limit influenza transmission. Any income generating gatherings such as fairs, concerts and special events will be severely affected. However in more rural areas, it is possible that some of these same venues may become sites for mass vaccination or mass prophylaxis and take precedence over previously scheduled events.

Requirements for success of these measures include the commitment of employers to provide options and make changes in work environments to reduce contacts while maintaining operations; whereas, within communities, the support of political and business leaders as well as public support is critical.

5.5 Public Education on Measures Such as Hand/Respiratory Hygiene

The Arizona Department of Health Services (ADHS) has a wide variety of public education materials that can be downloaded from the Department's website located at http://www.azdhs.gov/flu/flu_toolkit.htm. The Flu Education Toolkit contains easily downloadable items in English and Spanish such as bookmarks, posters, information sheets and brochures for children, teachers, healthcare, hospitals, long-term care and assisted living agencies and the workplace. Local health departments can develop education initiatives utilizing these tools as well

as their own materials and conduct outreach in their respective communities. Encouraging schools, other government agencies and businesses to create and shape their own communication strategies adds depth to the number of people that are well informed on the basics of preventing transmission of influenza to themselves and others. Hand/respiratory hygiene and cough etiquette includes:

- Cover the nose/mouth when coughing or sneezing;
- Use tissues to contain respiratory secretions and dispose of them in the nearest waste receptacle after use;
- Perform hand hygiene (e.g., hand washing with non-antimicrobial soap and water, alcohol-based hand rub, or antiseptic handwash) after having contact with respiratory secretions and contaminated objects/materials.

5.6 Public Health Risk Communication

Effective public health risk communication is necessary to inform the public not only of the specific interventions being implemented (e.g. which schools/businesses/events are closed) but the rationale behind these measures. Please see Supplement 10, *Public Health Communications*, and Supplement 12, *Influenza Pandemic Information Management*, of the Arizona Influenza Pandemic Response Plan located at http://www.azdhs.gov/pandemicflu/pandemic_flu_plan.htm for public health communication processes, systems and networks that are available for use during an influenza pandemic.

Arizona State Government works collaboratively with Federal, Tribal, County and City entities. Formal coordination of media groups includes the Arizona PIO Task Force and Media Focus Groups. As a result of these groups, Arizona is prepared with a tangible robust suite of plans to effectively and efficiently respond to a wide variety of emergency situations, including pandemic influenza.

The Arizona PIO Task Force identifies ways to expedite information to the public while working to coordinate media functions with stakeholders statewide. Arizona launched a state-wide campaign to inform people of what they need to do to be prepared for them; to be prepared for their families; and to be prepared for their communities. After recent public health emergencies (most notably the hurricanes in the Gulf of Mexico), Arizona recognized that the majority of the public is simply not prepared to handle emergencies that would require them to take action immediately.

“Just in case Arizona” is a statewide emergency preparedness campaign sponsored by the Arizona Department of Health Services. It simplifies the preparedness message by breaking all emergencies down into one of two types; those for which you need to be prepared to stay (or shelter in place), and those for which you need to be prepared to go (or evacuate). A wealth of information, including check lists and family plans, is also available through AZ 2-1-1 Online at www.az211.gov. AZ 2-1-1 Online helps Arizonans find information about local emergencies and health and human services and is the official sources of timely information during natural or man-made emergencies such as pandemic influenza, wildfires, floods, utility outages, and evacuations. The public wants to be prepared, and this campaign will help them get there and keep their families safe.

A public health information line has been established and can be coordinated, scripted and activated by the Arizona Department of Health Services. The bi-lingual, 24/7 menu-driven information line can be accessed throughout Arizona (Metropolitan Phoenix (602) 364-4500 and statewide (800) 314-9243). In addition, the Arizona Department of Health Services has the capabilities in-place to activate a public health emergency information call center (Metropolitan Phoenix (602) 364-0244 and statewide (866) 894-1594). This center would be activated and utilized to serve as the state's official "hotline" for Arizona citizen to call with question about pandemic influenza and to screen ill persons and their need to seek medical attention. Staff operating the call center will be trained by the Arizona Department of Health Services' Bureau of Emergency Preparedness and Response exercise and training personnel.

In a pandemic event, ADHS has the lead in public information functions. Since numerous other agencies will potentially work in support of the ADHS public information function, a Joint Information Center (JIC) may be established as required by the nature and scale of the event. The JIC will perform the following:

- Provide guidance and procedures for disseminating Emergency Public Information (EPI) in support of the state's response and recovery to an emergency/disaster.
- Provide for the effective collection, monitoring, management and dissemination of accurate, useful and timely information to media outlets during emergencies/disasters.
- Disseminate emergency instructions and protective actions to the public.
- Maintain procedures to disseminate public information and instructions for obtaining disaster assistance.
- Provide procedures to develop and disseminate public information regarding governmental response and recovery operations.
- Coordinate EPI to avoid panic, fear and confusion resulting from rumors and hearsay.
- Provide long-term public education efforts related to hazard awareness, family protection planning and emergency self-help.

Additionally, local public service announcements can be used to promote the following information:

- Educate the public to recognize the signs and symptoms of the flu
- Encourage the public to voluntarily self-isolate or self-quarantine and for how long
- Notify businesses that ill individuals should not go to work
- Inform the public of hotline phone numbers and websites for pandemic influenza updates
- Inform the public of where to obtain educational materials
- Announce the cancellation of large public gatherings (concerts, sporting events, etc.)

6.0 Triggers for Initiating Use of Non-Pharmaceutical Interventions

From a pre-pandemic planning perspective, the steps between recognition of a pandemic threat and the decision to activate a response are critical to successful implementation. Thus, a key component is the development of scenario-specific contingency plans for pandemic response that identify key personnel, critical resources, and processes. To emphasize the importance of this concept, this CDC guidance introduces the terminology of *Alert, Standby,* and *Activate,* which reflect key steps in escalation of the response action.

Alert: Includes notification of critical systems and personnel of their impending activation.

Standby: Includes initiation of decision-making processes for imminent activation, including mobilization of resources and personnel.

Activate: Refers to implementation of the specified pandemic mitigation measures.

The speed of transmission may drive the amount of time decision-makers are allotted in each mode, as does the amount of time it takes to fully implement the intervention once a decision is made to activate. These triggers for implementation of NPIs will be most useful early in a pandemic and are summarized in Table 3.

Table 3: Triggers for Implementation of Mitigation Strategy by Pandemic Severity Index and WHO/U.S. Stages

Pandemic Severity Index	WHO Phase 6, U.S. Government Stage 3	WHO Phase 6, U.S. Government Stage 4 & First Human Case in U.S.	WHO Phase 6, U.S. Government Stage 5 & First Laboratory Confirmed Cluster in U.S. State or Region
1	Alert	Standby	Activate
2 and 3	Alert	Standby	Activate
4 and 5	Standby	Standby/Activate	Activate

The decision to declare the above triggers will be made through guidance from CDC and reporting of laboratory confirmed pandemic influenza in Arizona or the surrounding regions by the Laboratory Response Network and State Public Health Laboratories. For the most severe pandemics (Categories 4 and 5), *Alert* is implemented during WHO Phase5/U.S. Government Stage 2 (confirmed human outbreak overseas), and *standby* is initiated during WHO Phase 6/U.S. Government Stage 3 (widespread human outbreak in multiple locations overseas). *Standby* is maintained through Stage 4 (first human case in North America), with the exception of the State or region in which a laboratory confirmed human pandemic influenza case cluster with evidence of community transmission is identified. The recommendation for that State to *activate* the appropriate NPIs is defined in Table 3 when identification of a cluster and community transmission is made. Other States or regions *activate* appropriate interventions when they identify laboratory confirmed human pandemic influenza case clusters with evidence of community transmission in their jurisdictions.

Determining the likely time frames for progression through *Alert, Standby,* and *Activate* postures is difficult. Predicting this progression would involve knowing the speed at which the pandemic is progressing and the segments of the population most likely to have severe illness. Therefore, from a pre-pandemic planning perspective and given the potential for exponential spread of pandemic disease, it is prudent to plan for a process of rapid implementation of the recommended measures.

7.0 Critical Issues: Surveillance, Timing and Duration of Interventions

Preliminary analysis of historical data from selected U.S. cities during the 1918 pandemic suggests that timing and duration of implementation is significantly associated with overall mortality rates. Stopping or limiting the intensity of interventions, while pandemic virus was still circulating within the community, was temporally associated with slight increases in mortality due to pneumonia and influenza in some communities (CDC, 2007). Total duration of implementation for the measures specified in this plan will depend on the severity of the pandemic and total duration of the pandemic wave in the community, which may average about 6-8 weeks. However, because early implementation of pandemic mitigation interventions may reduce the virus's basic reproductive number, a mitigated pandemic wave may have lower amplitude but longer wavelength than an unmitigated pandemic wave. Arizona should therefore be prepared to maintain these measures for up to 12 weeks in a Category 4 or 5 pandemic.

Enhancing and maintaining sensitive and timely surveillance at national, State, and local levels is critical to the early detection of pandemic influenza within the state or country. The ADHS Office of Infectious Disease Services (OIDS), with the assistance of partners at the local public health agencies and in consultation with CDC, will provide descriptive and analytical epidemiological reports as needed to determine:

1. Extent of outbreak within Arizona, including numbers and rate of identified cases
2. Temporal description of outbreak
3. Risk factors for infection, illness, and complications of illness including death
4. Predominate symptomology in the community
5. Identifiable patterns of transmission

OIDS conducts routine surveillance for seasonal influenza each year, including the monitoring and analysis of:

- Influenza-like illness through the sentinel provider network;
- Positive laboratory reports for influenza from laboratories throughout the state;
- Sub-typing data for selected influenza isolates;
- Influenza-associated mortality data from County/state vital records offices;
- Influenza-associated pediatric mortality;
- Syndromic outpatient, laboratory request, and hospitalization data through BioSense; and
- Data from County health department influenza surveillance activities, including absenteeism rates from selected schools and workplaces.

During the influenza season, these data are analyzed and disseminated weekly through conference calls, the Health Alert Network, and the Department's public website.

The Department and partners at the local health departments will intensify surveillance activities during a Pandemic Alert (WHO Phases 3 through 5) in order to increase the timeliness and sensitivity of influenza reporting. Routine activities conducted for seasonal influenza surveillance will occur with greater frequency, and additional resources will be devoted to monitoring data quality and collection. Additional activities not traditionally utilized for seasonal influenza will also be implemented. These may include:

- Intensive investigation of clusters or suspect cases of pandemic influenza, including the use of rapid response teams;
- Active surveillance of hospitals, medical examiners' offices, schools, or selected workplaces;
- Increased specimen collection among suspect cases for testing at the State Public Health Laboratory;
- Screening and/or investigation of ill air travelers from high-risk areas; and
- Activation of the Public Health Incident Management System for coordinating the surveillance and other response activities.

Arizona's strategic plan for intensifying surveillance activities by successive WHO Pandemic Phases are provided in more detail in the Arizona Influenza Pandemic Response Plan, Supplement 1, at www.azdhs.gov/flu.

The ADHS Infectious Disease Surveillance and Preparedness Program is prepared to conduct, track, and report on disease surveillance activities in the following six categories during an influenza pandemic: outpatient (ILI) surveillance, hospitalization surveillance, mortality surveillance, laboratory surveillance, syndromic surveillance, and surveillance communications. Detection of early suspect cases of pandemic influenza within Arizona will require that local health care providers consider a diagnosis of pandemic influenza, likely based on both clinical presentation and epidemiological risk factors, and rapidly notify public health authorities to speed investigation and testing. While point-of-care testing for seasonal influenza has increased greatly over the past several years, only select laboratories currently have the ability to distinguish pandemic influenza from other (seasonal) influenza A viruses. Thus, the ability to transmit specimens to the State Public Health Laboratory is important, along with the transmission of data from both providers and laboratories to public health officials.

Communications are critical to all of the surveillance efforts described above. In addition to the activities mentioned, during WHO Pandemic Alert and Pandemic Phases, OIDS will be monitoring EpiX alerts and participating in CDC conference calls, and will disseminate information to local health departments, health care providers, and other partners through the Health Alert Network, conference calls, Epi-AZ newsletters, and other means.

8.0 Testing and Exercising Community Mitigation Interventions

Exercises are designed to implement the steps of a written plan from problem identification through public health stability/recovery. The goals in exercise play include: effective participation and coordination by all affected/responding agencies, effective communication, standardized and crisis-managed public information messages and preservation of human health and safety. Outcomes of exercise play include lessons-learned, identifying proficiencies, deficiencies and gaps and proposing modifications to plans and procedures.

ADHS recognizes that while a statewide effort will likely be used during an influenza pandemic, response will begin at the local level. ADHS has assisted counties and tribes to develop and maintain well-exercised plans to respond to an event and to integrate public health into the overall emergency response infrastructure within the state of Arizona.

9.0 Summary of Federal Authorities

Taken from the Health and Human Services (HHS) Pandemic Influenza Response Plan
http://www.hhs.gov/pandemicflu/plan/appendixe.html

Section 319(a) of the Public Health Service (PHS) Act (42 U.S.C. 247d), authorizes the HHS Secretary to declare a public health emergency. The Secretary can make and enforce regulations necessary to prevent the introduction, transmission, or spread of communicable diseases from foreign countries into the United States, or from one state or possession into any other State or possession. The Centers for Disease Control and Prevention (CDC) administers these regulations as they relate to quarantine of humans. Diseases for which individuals may be quarantined are specified by Executive Order; the most recent change to the list of quarantinable diseases was the April 1, 2005 Executive Order 13375, which amended the Executive Order 13295 by adding "influenza caused by novel or re-emergent influenza viruses that are causing, or have the potential to cause, a pandemic" to the list.

Other provisions in Title III of the PHS Act permit HHS to establish quarantine stations, provide care and treatment for persons under quarantine, and provide for quarantine enforcement. Section 311 of the PHS Act provides for Federal-state cooperative activities to enforce quarantine and plan and carry out public health activities. Section 311 also authorizes the Secretary to make available the resources of the PHS to help control epidemics and deal with other public health emergencies. HHS may also engage in certain international activities under section 307 of the PHS Act. Statute 42 U.S.C. § 97, which provides that the Secretary of Health and Human Services may request that Customs, Coast Guard, and military officers aid in the execution of quarantines imposed by states. The Secretary also has the authority to implement disease control measures in Indian country, if necessary. (25 U.S.C. 198, 231; 42 U.S.C. 2001). Indian Tribes, like states, are sovereign entities with police power authority to enact their own disease control rules and regulations.

Pandemic mitigation interventions will pose challenges for individuals and families, employers (both public and private), and local communities. Some cascading second and third order effects will arise as consequences of the use of NPIs. However, until a pandemic-strain vaccine is widely available during a pandemic, these interventions are key measures to reduce disease transmission and protect the health of Americans. The community mitigation strategy emphasizes care in the home and underscores the need for individual, family, and employer preparedness. Adherence to these interventions will test the resiliency of individuals, families, and employers.

9.1 Arizona-Mexico Border Coordination

During an infectious disease outbreak, including pandemic influenza, the Arizona-Sonora border region may be highly affected. Arizona and Sonora share a 370 mile (595km) border that includes five international points of entry (POE) along the international U.S.-Mexico border. The POEs are situated in four Arizona border counties, the Tohono O'odham Nation, and two Sonoran jurisdictions that encompass six border municipalities. On a daily basis, tens of thousands of residents of the border region cross the border both north and southbound. Southwestern Arizona and Northwestern Sonora comprise a region rich in agriculture with a large fluid migrant farm worker population.

To increase the efficacy of coordinated activities between the Arizona Department of Health Services (ADHS) and the Secretaría de Salud Pública de Sonora (SSP) during a binational infectious disease outbreak such as pandemic influenza affecting Arizona AND Sonora, a regional response plan that links the two established State plans together has been developed. The Arizona–Sonora Regional Pandemic and Emergency Response Plan establishes procedures for cross-border coordination during an infectious disease outbreak. The ADHS Office of Border Health (OBH) serves as the primary conduit for public health communication and coordination between ADHS and the SSP. In the event of a public health emergency, threat of an infectious disease outbreak, or infectious disease outbreak affecting the Arizona-Sonora border region, or both states, the SSP will coordinate with the ADHS through the OBH, or other appointed personnel at the state level, to maintain binational communication and collaboration between both state-level public health agencies.

Cross-border coordination between ADHS and the SSP pertains to, but is not limited to, the following areas: communication, public information (media), sharing of public health information including epidemiology, infectious disease surveillance & laboratory surveillance data, and isolation and quarantine.

The SSP and ADHS will collaborate and exchange public health information to employ preventive measures to attempt to minimize the number of affected people during an infectious disease outbreak or public health emergency. The OBH serves as the primary conduit for binational communication and coordination for cross-border public health activities and incidents of public health concern. In the event of a public health emergency, the OBH staff will maintain communication with the Secretariat of Health (SSP) in Hermosillo, Sonora. Initial contact will be established via a telephone call, cellular or land line. A call down list is maintained and routinely updated by the OBH and SSP. All pertinent information, data and infectious disease case information, and laboratory testing protocols and results will be shared via the Secure Integrated Response Electronic Notification (SIREN) system: Email, Current Response portal, or the Border Health portal. If SIREN is unavailable, telephones and fax machines will be used to share information.

The OBH staff responsible for maintaining communication with the Sonora Secretariat of Health is the Office Chief, Border Preparedness Coordinator/EWIDS Program Manager, and the Border Surveillance Epidemiologist(s). If OBH personnel are not available to initiate and maintain communication with the SSP, an identified backup team of Spanish-speaking ADHS personnel will be established. The OBH will establish routine conference calls between the ADHS and the SSP, and may include representation from the Governors' Offices of Arizona and Sonora, and any other local, state and federal agency as deemed necessary. Participants on the teleconference call will be determined by the ADHS and SSP and/or Governor's office of each respective state.

The SSP personnel at the local level border municipalities will first establish communication with the Sonora State level and other Sonora border region health entities in the event of a suspect or probable case of an infectious disease outbreak, or pandemic influenza. State level personnel from the SSP will then begin communication with the ADHS via the OBH Chief, or designee.

9.2 Addressing Travel-Related Risk

Travel-related risk in regards to an infectious disease outbreak or pandemic planning primarily refers to health effects associated with air travel, or any international travel (e.g., border crossings). The ADHS (OBH) and SSP will coordinate with U.S. Customs and Arizona region Border Protection and Mexican Customs (Aduana) to address travel-related risk for international crossings at the Arizona-Sonora ports of Entry. In Arizona, ADHS will coordinate with the Centers for Disease Control and Prevention (CDC) to provide guidance for travel-related containment measures to local health departments, and provide public information to residents for travel to countries of concern for exposure.

As with community containment, travel-related containment if often best addressed at the local level, although many situations may involve ADHS and the federal government, due to federal ports of entry and quarantine authority for international travel laws. Affected County and tribal health departments are encouraged to work with ADHS while preparing for and enacting containment measures to address travel-related risk (Refer to Arizona Influenza Pandemic Response Plan, Supplement 9: Travel-Related Risk of Disease Transmission).

Awareness at the Sonora Border is the SSP responsibility. The SSP will implement measures to limit diffusion of infection by national and international travel at the US-Mexico international border POEs. Information will be provided to national and international travelers, and periodical revisions of control measures will be made for travelers in the border region to reduce the risk of infection. The SSP will coordinate with authorities at the ADHS to implement these measures.

The Mexican Epidemiological and Health Intelligence Unit's (UIES) function at the international border POEs is to meet with authorities at each of the POEs recognized by the state and revise emergency procedures jointly with Mexican customs authorities. A central operation center will be established at the state-recognized POEs, and a list of personnel responsible for covering all scheduled land border crossing shifts will be presented. A request will be made for a room for isolation and an area designated for land transportation. UIES will visually inspect vehicle passengers and transportation vehicle passengers, and assess travelers by asking health-related questions.

10.0 State Contact Information

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11.0 NIMS Compliance

The Arizona Department of Health Services has incorporated elements of the National Incident Management System (NIMS) into its emergency response plan. This plan is compliant with NIMS. The Department's response structure is the Public Health Incident Management System (PHIMS). It is an incident command system (ICS) that provides for the integration of various programs' activities into a cohesive response for an emergency. The 15 Arizona local County health departments operate under the same components of NIMS.